

WHAT IS CLAIMED IS:

1. A method for the production of fiber-reinforced plastic compositions, comprising:

providing an apparatus including a double screw, plasticizing extruder and a plastic melting extruder, wherein the plasticizing extruder includes two bores and two extruder screws driven in rotation;

melting plastic granules in the plastic melting extruder;

combining the melted plastic and a fiber material in an entrance opening of the plasticizing extruder;

feeding the combined melted plastic and fiber material into one of the bores of the plasticizing extruder, the bore having a diameter and having a $\frac{1}{4}$ to $\frac{3}{4}$ wrap-around enlarged by 2 to 20 mm from the point of contact with the fiber material;

embedding the fiber material substantially uniformly in the melted plastic within a feed and impregnating section of the plasticizing extruder;

bringing the embedded fiber material completely to the plasticate temperature in a discharge and transport section of the plasticizing extruder; and

discharging the embedded fiber from the plasticizing extruder as a fiber-reinforced plastic composition susceptible of further processing.

2. The method according to claim 1, wherein the plastic granules are melted to a higher temperature than the plasticate temperature.

3. The method according to claim 1, wherein the fiber material is preheated before combination.

4. The method according to claim 1, wherein the $\frac{1}{4}$ to $\frac{3}{4}$ wrap-around is eccentric.

5. The method according to claim 1, wherein the entrance opening is parallel to an extruder screw.

6. The method according to claim 1, wherein the fiber material fed into the extruder is fed approximately tangential to an extruder screw.

7. The method according to claim 1, wherein the fiber material is proportioned gravimetrically into the opening.

8. The method according to claim 1, wherein the fiber material is in ribbon form, laid flat, and is fed in uniform proportion with respect to the melted plastic film into a slot shaped opening of the plasticizing extruder.

9. An apparatus for the production of fiber-reinforced plastic compositions from fiber material and melted plastic, comprising:

a parallel, double screw, plasticizing extruder, including

a housing with two bores and two extruder screws driven in rotation, one of the bores being a cylinder bore having a diameter and one of the extruder screws being a feed screw,

an impregnation section, including a slot-like feed opening provided in the housing above the feed screw for the introduction of fiber material into at least one of the bores and for mixing, wherein beginning at the feed opening the cylinder bore has a $\frac{1}{4}$ to $\frac{3}{4}$ wrap-around enlarged by 2 to 20 mm, after which the cylinder bore is reduced to the screw diameter, and

a stripper bar disposed at the end of the wrap-around; and

a plastic melting extruder adapted to heat the fiber material in a transport line to the plasticizing extruder.

10. The apparatus according to claim 9, wherein the $\frac{1}{4}$ to $\frac{3}{4}$ wrap-around enlarged by 2 to 20 mm is eccentric.

11. The apparatus according to claim 9, wherein the plasticizing extruder comprises mop-up screw elements.

12. The apparatus according to claim 9, wherein a feed area is expanded conically onto the feed screw.

13. The apparatus according to claim 9, wherein the enlargement is created downstream in a closed area of the plasticizing extruder.

14. The apparatus according to claim 9, wherein a driven feed roll with a stripper bar is disposed in a feed area of the feed opening.

15. The apparatus according to claim 9, wherein an entry jaw adapted to move is disposed in relation to the feed opening.

16. The apparatus according to claim 15, wherein following the entry jaw, the enlargement terminates spirally in the direction of rotation of the feed screw.

17. The apparatus according to claim 15, wherein the entry jaw is thermally insulated from the housing.

18. The apparatus according to claim 15, wherein the entry jaw is adapted to be moved by an oscillating drive.

19. The apparatus according to claim 9, wherein the temperature of the entry jaw can be tempered below the tackiness temperature of the fiber material.

20. The apparatus according to claim 9, wherein exchangeable scrapers are provided in the feed opening.